US Army Corps of Engineers®
Engineer Research and Development Center

ROOFER Engineered Management System (EMS)

Technology

The ROOFER Engineered Management System (EMS) is a practical decision-making tool to help identify cost-effective strategies for repair and replacement of low-slope membrane and asphalt shingle roofs. ROOFER includes procedures for collecting inventory and inspection information, evaluating roof condition, identifying repair/replacement strategies, prioritizing projects, and developing work plans.

Micro ROOFER, a microcomputer application that runs in a Windows 95/98/NT environment, provides data storage and analysis, and generates management reports. ROOFER uses standard inspection procedures and numerical indexes for assessing condition. A roof's condition is determined based on distress data collected during visual inspections. For insulated membrane roofs, additional information is provided by nondestructive moisture surveys and gravimetric analyses of core cuts. The inspection data provide the information needed to generate condition indexes for the major roof components and an overall "roof condition index."

Problem

Military installations, like many Federal, state, and local governmental agencies, have large inventories of buildings with low-slope membrane and steep roofing systems. A major portion of their infrastructure maintenance dollars is spent to repair and replace these roofs. The facility managers need systematic procedures to help them optimize the use of funds available for repair and replacement.

Expected Cost To Implement

ROOFER is sold outright on an annual subscription basis; the initial subscription for ROOFER is $650. Yearly renewals are $600.

The Installation Support Center of Expertise (ISCX) at the U.S. Army Engineering and Support Center, Huntsville, AL, can provide military users with implementation assistance through an Indefinite Delivery Type Contract (IDCT). (The cost of this contracted service will vary from installation to installation.)

Benefits/Savings

ROOFER enables building managers to rate their present roof condition, prioritize projects, and optimally allocate the budget. At the project level, ROOFER can help select repair and replacement strategies and identify work requirements. In the long term, this technology results in maximized roof conditions using available funds. ROOFER's benefits include: (1) inventory of roofing assets, (2) development of detailed roof plan drawings, (3) detection of roof defects and development of condition indexes, (4) network analysis reports for prioritizing projects and justifying funding requirements, (5) project analysis evaluation to determine most cost-effective repair strategies, and (6) work requests to document the recommended action.

Status

Roofer 2.0 is currently available from the listed distribution source. Also available is an additional geographic information system (GIS) module developed for ROOFER that enables graphical output that show roof conditions from an installation-wide perspective at a glance.

ERDC POC

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Distribution Source

ROOFER may be purchased from the Technical Assistance Center, Suite 202 University Centre, 302 E. John St., Champaign, IL 61820; Phone: 217/333-5414; online purchase is available through URL:

http://www.conted.uiuc.edu/techctr/

Available Documentation

Program documentation and reference manuals can be purchased from the listed distribution source.

Available Support

Military users can contract ROOFER installation and support through the U.S. Army Engineering and Support Center, Phone: 256/895-1275; also accessible through URL:

http://www.hnd.usace.army.mil/iscx/index.asp

Users may also direct support-related questions to the ROOFER Technical Assistance Center, Phone: 217-333-5414; or Conferences and Institutes, Lynn Brownfield, Suite 202, University Inn, 302 East John Street, Champaign, IL 61820-5612, or by e-mail:

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